

Arguments to the Claims

Please amend claims 1, 3-6, 8-10, 14, 17-20, 23, 25-29 and 31-32 as follows.

1. (currently amended) In an electronic device, a method for maintaining a timed-event list of operations to be performed by said electronic device, said method, comprising the steps of:

providing a first data structure for said timed-event list, said first data structure being of a size larger than the expected number of events occurring in said electronic device at any one time,

providing a second plurality of ~~second~~ data structures referenced by said first data structure, ~~said second data structures holding third structures, each said third structure encapsulating data about a timed event, said timed events to be performed by said electronic device, said second plurality of data structures being referenced by different locations in said first data structure, and~~

inserting a third data structure into ~~a selected~~ one of said second plurality of data structures referenced by said first data structure, said third data structure encapsulating data about a timed event performed by said electronic device, said ~~selected~~ one of the second plurality of data structures being selected based on the time for execution of a timed event encapsulated by said third data structure, and the size of said first data structure ~~and a current time~~.

2. (original) The method of claim 1 comprising the further step of:
serially traversing said first data structure at periodic timed intervals.

3. (currently amended) The method of claim 2 comprising the further steps of:
serially traversing a said one of the second plurality of data ~~structure~~ structures referenced by said first data structure in the time period between said periodic timed intervals;
and

inspecting a said third data structure held by said one of the second plurality of data ~~structure~~ structures.

4. (currently amended) The method of claim 3 comprising the additional steps of:
retrieving said inspected third data structure from said one of the second plurality of data ~~structure~~ structures; and

executing a timed event encapsulated by said third data structure.

5. (currently amended) The method of claim 3 comprising the further steps of:
removing said inspected third data structure from said one of the second plurality of data structure structures; and
inserting said inspected third data structure into a different one of said second plurality of data structure structures referenced by said first data structure based on the time for execution of a timed event encapsulated by said third data structure, and the size of said first data structure ~~and a current time~~.
6. (currently amended) The method of claim 5 comprising the further steps of:
retrieving said inspected third data structure from said different one of the second plurality of data structure structures; and
executing a timed event encapsulated by said third data structure.
7. (original) The method of claim 3 wherein said first data structure is an array.
8. (currently amended) The method of claim 3 wherein said second plurality of ~~said second~~ data structures are linked lists.
9. (currently amended) The method of claim 3 wherein said second plurality of ~~said second~~ data structure are doubly-linked lists.
10. (currently amended) The method of claim 3 wherein said third data structure encapsulates data about a timed event that is part of a computer simulation.
11. (original) The method of claim 1 wherein said electronic device is a real-time computer system.
12. (original) The method of claim 1 wherein said electronic device is a network switch.
13. (original) The method of claim 1 wherein a hashing algorithm is used to select the insertion point of said third data structure.
14. (currently amended) In a computer system, a method for maintaining a timed-event list, said method, comprising the steps of:

providing an array of memory locations for the timed-event list, said memory locations numbering more than the expected number of events occurring in said computer system at any one time,

providing a plurality of linked lists referenced by said memory locations in said array; ~~said linked lists including nodes, each said node encapsulating data about a timed event to be performed by said computer system,~~ said plurality of linked list being referenced by different memory locations in the array;

inserting a node into ~~a selected~~ one of said linked lists referenced by said memory locations in said array, said node encapsulating data about a timed event to be performed by said computer system, said ~~selected~~ one of said linked lists being selected based on the time for execution of a timed event encapsulated in said node, and the size of said array ~~and a current time~~.

15. (original) The method of claim 14 wherein said linked lists are doubly-linked lists.

16. (original) The method of claim 14 comprising the further step of:
serially traversing said array at periodic timed intervals.

17. (currently amended) The method of claim 16 comprising the further steps of:
serially traversing a said one of the linked ~~list~~ lists referenced by said memory locations in said array; and
inspecting a said node in said one of the linked ~~list~~ lists encapsulating data about a timed event.

18. (currently amended) The method of claim 17 comprising the further steps of:
retrieving said inspected node from said one of the linked ~~list~~ lists; and
executing a timed event encapsulated by said inspected node.

19. (currently amended) The method of claim 17 comprising the further steps of:
removing said inspected node from said one of the linked ~~list~~ lists; and
inserting said inspected node into a different one of the linked ~~list~~ lists referenced by a different memory location in said array based on the time for execution of a timed event encapsulated by said inspected node, and the size of said first data structure ~~and a current time~~.

20. (currently amended) The method of claim 19 comprising the further steps of:
retrieving said inspected node from said different one of the linked ~~list~~ lists; and

executing a timed event encapsulated by said inspected node.

21. (original) The method of claim 14 wherein said computer system is a real-time system.

22. (original) The method of claim 14 wherein said timed event list holds events for a computer simulation.

23. (currently amended) In a computer system, a medium holding computer-executable instructions for a method, said method, comprising the steps of:

providing a first data structure, said data structure of a size larger than the expected number of events occurring in said system at any one time,

providing a second plurality of ~~second~~ data structures referenced by said first data structure, ~~said second data structures holding third structures, each said third structure encapsulating data about a timed event, said timed events to be performed by said system, said~~ second plurality of data structures being referenced by different locations in said first data structure, and

inserting a third data structure into ~~a selected~~ one of said second plurality of data structures referenced by said first data structure, said third data structure encapsulating data about a timed event performed by said computer system, said ~~selected~~ one of said second plurality of data structures being selected based on the time for execution of a timed event encapsulated by said third data structure, and the size of said first data structure ~~and the current time~~.

24. (original) The method of claim 23 comprising the further step of:

serially traversing said first data structure at periodic timed intervals.

25. (currently amended) The method of claim 24 comprising the further steps of:

serially traversing ~~a~~ said one of the second plurality of data structure structures referenced by said first data structure in the time period between said periodic timed intervals; and

inspecting ~~a~~ said third data structure in said one of the second plurality of data ~~structure structures~~, said third data structure encapsulating information about a timed event.

26. (currently amended) The method of claim 25 comprising the additional steps of:

retrieving said inspected third data structure from said one of the second plurality of data ~~structure structures~~; and

executing a timed event encapsulated by said third data structure.

27. (currently amended) The method of claim 25 comprising the further steps of:
removing said inspected third data structure from said one of the second plurality of data ~~structure~~ structures; and

inserting said inspected third data structure into a different one of said second plurality of data ~~structure~~ structures referenced by said first data structure based on the time for execution of a timed event encapsulated by said third data structure, and the size of said first data structure ~~and the current time~~.

28. (currently amended) The method of claim 27 comprising the further steps of:
retrieving said third data structure from said one of the second plurality of data ~~structure~~ structures; and

executing a timed event encapsulated by said third data structure.

29. (currently amended) In an optical network, a switching apparatus for switching a path in the optical network, the switching apparatus comprising:

~~a processor;~~

an event list, said event list comprised of a first data structure holding multiple references to a second plurality of ~~second~~ data structures, said second plurality of data structures being referenced by different locations in said first data structure, said second plurality of data structures holding third data structures, said third data structures encapsulating information about events scheduled to be executed by said switching apparatus; and

~~a management facility~~ an operating system for maintaining said event list, said ~~management facility~~ operating system inserting said third data structures into ~~selected said~~ second plurality of data structures referenced by said first data structures based on the time for execution of a timed event encapsulated by said third data structure, and the size of said first data structure ~~and a current time~~.

30. (original) The apparatus of claim 29 wherein said first data structure is an array

31. (currently amended) The apparatus of claim 29 wherein said second plurality of data ~~structure is~~ structures are a linked list lists.

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32. (currently amended) The apparatus of claim 29 wherein said second plurality of data
~~structure is~~ structures are a doubly-linked ~~list~~ lists.